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# ENVIRONMENTAL ASSESSMENT

*Increase Fuel Storage Capacity*

DOVER AIR FORCE BASE, DELAWARE

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**FINAL**

June 2012

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**FINDING OF NO SIGNIFICANT IMPACT****Environmental Assessment  
Increase Fuels Capacity  
Dover Air Force Base, Delaware****Background**

The United States Air Force in conjunction with the Defense Logistics Agency proposes to construct a new 80,000 barrel (approximately 3.3 million gallon) aboveground storage tank at Dover Air Force Base, Delaware (Dover AFB) in the existing location of the Base Service Station to increase the fuels storage capacity to adequately provide fuel to support the C5 and C17 missions without pipeline supply in the event fuel flow through pipeline would be interrupted. The demolition of the existing base service station will require the construction of the new facility west of the current location. The proposed action will also construct a new fuels management facility while demolishing the existing one, facility 726.

The purpose of the action is to provide Dover AFB with fuel storage capable of providing the necessary fuel to support the current flying without pipeline supply in the event fuel flow through pipeline would be interrupted. Currently, a privately owned pipeline replenishes fuel to the existing Dover AFB storage inventory.

Pursuant to the National Environmental Policy Act (NEPA), the Council of Environmental Quality (CEQ) implementing regulations, (40 CFR 1500-1508) and the Air Force Environmental Impact Analysis Process (32 CFR 989), the Air Force has prepared an Environmental Assessment (EA) analyzing the potential environmental impacts of the Proposed Action to construct a new 80,000 barrel (approximately 3.3 million gallon) aboveground storage tank to increase fuels storage capacity. The EA evaluated potential impacts from the Proposed Action, Alternative 1, and No-Action alternative. Cumulative impacts were also evaluated.

**Proposed Action**

The Proposed Action is to construct a new 80,000 barrel aboveground storage tank in the current location of the Base Service Station. The new aboveground storage tank will be designed and installed in accordance with applicable environmental regulations. The proposed action will also construct a new fuels management facility and demolish the existing facility 726.

### **Alternatives to the Proposed Action**

The No Action Alternative, which would maintain the existing fuel storage capacity, was evaluated.

Alternative 1 to the Proposed Action would provide for the construction of a new 80,000 barrel aboveground storage tank on the western side of Atlantic Street Extended. The location would provide the additional fuel storage capacity but is located closer to the Dover AFB boundary increasing security risks for unauthorized entry and access and would not comply with wellhead protection regulations due to the presence of a potable drinking water well.

### **ENVIRONMENTAL IMPACTS**

Potential effects from the implementation of the Proposed Action, including cumulative impacts are summarized below:

#### **Air Quality**

Implementation of the Proposed Action would have temporary, minor impacts to the local air quality. No significant cumulative impacts would be expected. Calculated emissions from the proposed construction activities and long term emissions would be below de minimis values for criteria pollutants. Therefore, the General Conformity Rule does not apply. The associated emissions would be considered insignificant and not affect the local air quality.

#### **Transportation**

Implementing the Proposed Action would have short term, minor impacts on the roadway system at Dover AFB during construction activities. There are no long-term benefits of the action regarding transportation. Transportation systems off the base would not be impacted by the proposed construction activities; consequently, there would be no change to planning assumptions or recommended roadway improvements in the vicinity.

#### **Water Resources**

Implementing the Proposed Action would not impact groundwater resources because the proposed construction activities would not be conducted below ten feet of the ground surface, which is the reported groundwater elevation in the vicinity. Although the proposed action is located in the wellhead protection area zone 2 as identified in the Dover AFB Wellhead Protection Plan, the regulations allow construction of the new storage tank as long as its location

is greater than 150 feet away from the potable drinking water well. The location on the eastern side of Atlantic Street Extended at the current Base Service Station exceeds the 150 feet requirement. The tank will be designed and operated to ensure health and the associated environment are not impacted. The action could result in minor impacts to water quality from surface water runoff following storm events during construction activities; however best management practices (BMPs) outlined in the Sediment and Stormwater Management Plan prepared for the action would be implemented to minimize impacts from erosion and sedimentation. The implementation of the proposed action would have positive long term impacts to the water resources.

Proposed action would have no impact on wetlands or the 100 year floodplain.

### **Geology and Soils**

Implementing the Proposed Action would not significantly affect geologic features underlying Dover AFB. Construction activities involving ground disturbances would include grading and clearing; however, disturbances would not occur at depths that could potentially impact aquifer recharge zones.

Under the Proposed Action, soils would be disturbed during construction activities on approximately 3.0 acres of a mixture of undeveloped and developed land. However, BMPs would be implemented during construction to minimize impacts to soils associated with grading and clearing activities. Therefore, only temporary and minor impacts to soils would be expected and no cumulative impacts would be expected.

### **Socioeconomics and Environmental Justice**

Implementing the Proposed Action would not result in significant impacts on the demographics, employment, or income potential in the region of influence (ROI). The ROI is not considered an area with a concentrated minority population or poverty area; therefore, there are no environmental justice concerns. The economic benefits from construction activities would be minor and short-term compared to the regional economic generation and have no anticipated impacts to the social or economic characteristics of the ROI. No cumulative impacts would be expected.

**Hazardous Materials and Wastes**

Implementing the Proposed Action could generate hazardous wastes and/or consume hazardous materials. The potential impacts would be short-term, approximately six months during construction activities. Most of the materials used in construction would typically be consumed in their entirety and very little waste generated for disposal. As a result, no large amounts of construction-related hazardous materials would be expected, and any hazardous wastes generated during the activities would be disposed of in accordance with applicable federal, state, and local regulations.

There may be residual contaminants in the soil that may not allow for unrestricted disposal of excavated soils. These contaminants may include petroleum products. Any excavated soil that is not suitable for use on site would be stockpiled on site and tested to determine proper disposal requirements. Each stockpile of soil would be analyzed for the following items:

- a. Full TCLP (toxicity characteristic leachate procedure) to include ignitability, reactivity, corrosivity, metals, organics, pesticides and herbicides;
- b. Total Petroleum Hydrocarbons (TPH);
- c. Polychlorinated Biphenyls (PCBs);
- d. BTEX (Benzene, Toluene, Xylene, and Ethyl benzene); and
- e. Percent Solids.

The sample results would be submitted to Civil Engineer Squadron, Asset Management Flight (CES/CEA) for interpretation. CEA will use the hazardous waste limitations in the code of federal regulations when evaluating the TCLP results to determine if the soil must be disposed of as hazardous waste. The other remaining parameters are required for disposal at a Delaware Solid Waste Authority (DSWA) facility and have associated DSWA limitations. Those limitations will be compared to the results to determine if the soil can be disposed of within the State of Delaware, only if the soil is not a hazardous waste. If soil is hazardous waste, it would be disposed of accordingly at a disposal facility permitted to accept hazardous waste. If the soil is non-hazardous waste but does not meet the limitations of the DSWA, the soil would be disposed of at a disposal facility permitted to accept such waste.

Long-term planning impacts would be expected due to the presence of an additional 3.3 million gallons of jet fuel included in the Dover AFB Spill Prevention Control and Countermeasures (SPCC) and Facility Response Plan (FRP). Included changes would also be associated with the Dover AFB worst case scenario spill response exercises. Compliance as well with the

aboveground storage tank regulations would apply to this new tank in design and during operation to ensure hazardous materials leaks or ruptures will not happen, and if they would, the associated safety precautions are in place to protect health of workers and the surrounding environment.

**Biological Resources**

Implementing the proposed action will have no impact on biological resources.

**Coastal Zone Management**

Implementing the proposed action will have no impact on coastal zone management.

**Cultural Resources**

The implementation of the proposed action will have minimal, if any impact on cultural resources.

**Irreversible and Irretrievable Commitment of Resources:**

There would be no irretrievable commitment of resources from the Proposed Action. Use of fuel for operation of construction equipment and human labor represent the only irreversible commitment of resources.

**FINDING OF NO SIGNIFICANT IMPACT**

Based upon my review of the facts and analyses contained in the attached EA, I conclude that the Proposed Action will not have a significant environmental impact, either directly or cumulatively in conjunction with other projects at Dover AFB. Accordingly, the requirements of NEPA, CEQ regulations and the Air Force Environmental Impact Analysis Process are fulfilled and the preparation of an Environmental Impact Statement is not required.

Signed:



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THOMAS A. REPPART, Colonel, USAF  
Commander, 436<sup>th</sup> Mission Support Group





**FINDING OF NO SIGNIFICANT IMPACT****Environmental Assessment  
Increase Fuels Capacity  
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The United States Air Force in conjunction with the Defense Logistics Agency proposes to construct a new 80,000 barrel (approximately 3.3 million gallon) aboveground storage tank at Dover Air Force Base, Delaware (Dover AFB) in the existing location of the Base Service Station to increase the fuels storage capacity to adequately provide fuel to support the C5 and C17 missions without pipeline supply in the event fuel flow through pipeline would be interrupted. The demolition of the existing base service station will require the construction of the new facility west of the current location. The proposed action will also construct a new fuels management facility while demolishing the existing one, facility 726.

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THOMAS A. REPPART, Colonel, USAF  
Commander, 436<sup>th</sup> Mission Support Group

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**ENVIRONMENTAL ASSESSMENT  
Increase Fuels Capacity**

**DOVER AIR FORCE BASE, DELAWARE**

**Lead Agency:** Department of the Air Force

**Proposed Action:** Provide increased fuels storage capacity to ensure continued fuel supply without pipeline supply in the event fuel flow through the pipeline would be interrupted.

**Written comments and inquiries regarding this document should be directed to:** Mr. Steven Seip, 436 CES/CEAN, 600 Chevron Avenue, Dover Air Force Base, DE 19902-5600, (302) 677-6839.

**Report Designation:** Environmental Assessment (EA)

**Abstract:** The Proposed Action is to construct a new 80,000 barrel (approximately 3.3 million gallon) aboveground storage tank in the vicinity of the existing base service station to provide the current flying missions fuel without a pipeline supply in the event fuel flow through the pipeline would be interrupted. Proposed action will also include the construction of a new base service station for refilling of government vehicles and a new fuels management facility while demolishing facility 726.

The No Action Alternative and an alternative consisting of another location for the new storage tank were also analyzed in this environmental assessment.

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**ACRONYMS AND ABBREVIATIONS**

436 AW	436th Airlift Wing
AFB	Air Force Base
Air Force	United States Air Force
BEA	Bureau of Economic Analysis
BMPs	best management practices
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CES/CEAN	Civil Engineer Squadron/Environmental
CFR	Code of Federal Regulations
CO	carbon monoxide
CWA	Clean Water Act
CZM	Coastal Zone Management
DNREC	Department of Natural Resources and Environmental Compliance
DSWA	Delaware Solid Waste Authority
DoD	Department of Defense
EA	environmental assessment
EO	Executive Order
EPCRA	Emergency Planning and Community Right-to-Know Act
ERP	Environmental Restoration Program
FONPA	finding of no practicable alternative
FONSI	finding of no significant impact
FY	fiscal year
MDG/MDSS	Medical Group, Medical Support Squadron
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NO <sub>x</sub>	nitrous oxides
NPDES	National Pollutant Discharge and Elimination System
O <sub>3</sub>	ozone
Pb	lead
PM <sub>10</sub>	particulate matter measuring less than 10 microns in diameter
POV	personally owned vehicle
RCRA	Resource Conservation and Recovery Act
ROI	region of influence
SARA	Superfund Amendments and Reauthorization Act
SIP	State Implementation Plan
SO <sub>2</sub>	sulfur dioxide
UFC	Unified Facilities Criteria
USACE	U.S. Army Corps of Engineers
USC	United States Code
USCB	U.S. Census Bureau
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound



## **1.0 PURPOSE AND NEED FOR THE ACTION**

### **1.1 Introduction and Background**

The United States Air Force in conjunction with the Defense Logistics Agency proposes to construct a new 80,000 barrel (approximately 3.3 million gallon) aboveground storage tank at Dover Air Force Base, Delaware (Dover AFB) in the existing location of the Base Service Station to increase the fuels storage capacity to adequately provide fuel to support the C5 and C17 missions without pipeline supply in the event fuel flow through pipeline would be interrupted. The demolition of the existing base service station will require the construction of the new facility west of the current location. The proposed action will also construct a new fuels control center while demolishing the existing one, facility 726.

The purpose of the action is to provide Dover AFB the fuel storage capable of providing the necessary fuel to support the missions of the C5s, C17s and transient aircrafts that utilize the fuel provided by Dover AFB without pipeline supply. Currently, a privately owned pipeline replenishes fuel into the existing Dover AFB storage inventory. This Environmental Assessment (EA) assesses the potential impacts associated with the action.

Since its beginning in 1941, Dover AFB has expanded its airlift mission capabilities and is the home of a combination of C-5 and C-17 aircraft. Dover AFB is in Kent County, Delaware (Figure 1-1). The host unit is the 436th Airlift Wing (436 AW), which provides command and control, and associated support functions to airmen and aircraft conducting a global airlift mission. Aircraft and aircrews assigned to Dover AFB provide worldwide movement of cargo and personnel on time-sensitive airlift missions. Aircraft assigned to Dover AFB comprise approximately 25 percent of the airlift capability of the U.S. Air Force (Dover AFB Snap Shot, 2 May 2012).

Dover AFB is the largest and busiest aerial port in the Department of Defense (DoD) and houses the only joint services mortuary. Dover AFB employs approximately 6,600 civilian and military personnel. Dover AFB has an economic impact greater than \$528 million annually on the Delaware economy and is considered Delaware's third largest industry (Dover AFB General Plan 2010).

**1.2 Past, Present, and Reasonably Foreseeable Actions**

Planned activities for fiscal years (FY) 2012-2013 include the demolition of approximately 92,894 square feet and the construction of 262,026 square feet of buildings and impervious surfaces. Cumulative effects of past, present, and future actions were considered in the scoping process for the Proposed Action to avoid long-term impacts to the natural and man-made environments.



**Figure 1-1. General Location of Dover Air Force Base**

### **1.3 Purpose and Need for the Proposed Action**

The purpose of the action is to provide increased fuel storage capacity to ensure the continued flying missions of the C5s, C17s and transient aircraft who utilize the Dover AFB airfield without pipeline supply in the event fuel flow through the pipeline would be interrupted. It is the understanding at the time of the drafting of this document, implementation of the proposed action will not alter existing operational standards with the fuel pipeline supply. Any long term decisions pertaining to fuel supply operations are not intended to be included in this NEPA document.

### **1.4 Scope of This Environmental Assessment**

This EA was prepared in accordance with the National Environmental Policy Act (NEPA) (Public Law 91-190, 42 United States Code [USC] §4321 et seq.), Department of the Air Force Regulation, Environmental Impact Analysis Process (32 Code of Federal Regulations [CFR] Part 989), and the Council on Environmental Quality (CEQ) implementing regulations (40 CFR §§1500-1508). The intent of NEPA is to protect, restore and enhance the human environment through well-informed Federal decisions. A variety of laws, regulations, and Executive Orders (EO) apply to actions undertaken by federal agencies and form the basis of the analyses presented in this EA. These include but are not limited to the following:

- Endangered Species Act;
- National Historic Preservation Act (NHPA);
- Clean Air Act (CAA);
- Clean Water Act (CWA);
- EO 11514, Protection and Enhancement of Environmental Quality;
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations; and
- EO 11990, Protection of Wetlands.

NEPA was signed into law in 1970 to ensure careful consideration of environmental aspects of Proposed Actions in Federal decision-making processes, and to make environmental information available to decision-makers and the public before decisions are made and actions are taken. It



establishes a process for consideration of the potential effects arising from a federal action by requiring that analysis and disclosure of potential effects occur prior to the undertaking of actions with the potential to have a significant effect on the environment.

This EA describes the baseline conditions (affected environment) at Dover AFB and assesses the potential environmental impacts of the Proposed Action and alternatives on the following resource areas: air quality, transportation, water resources including wetlands, geology and soils, socioeconomics and environmental justice, and hazardous materials and wastes. CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of the impacts of the proposed action and alternatives on the human environment. In accordance with §1501.7, only those resource areas that are potentially affected by the action were carried forward in the analysis. Resources or issues that were eliminated from further consideration in the analysis include land use, noise, and airspace.

The decision to be made, after a review of the analysis presented in this EA, would be whether to issue a finding of no significant impact (FONSI) or to proceed with development of an environmental impact statement to further quantify and detail the potentially significant impacts resulting from implementation of the Proposed Action or alternatives. While this EA provides information with which to make better decisions regarding the Proposed Action, it does not imply project approval or authorization.

### **1.5 Organization of This Environmental Assessment**

This EA follows the format established in 32 CFR §989, the U.S. Air Force guidelines for implementing the CEQ regulations (40 CFR §1502). Section 1 presents the purpose and need for the action. The alternatives, including the Proposed Action are presented in Section 2. The affected environment and environmental consequences are presented in Sections 3 and 4, respectively. A list of the document preparers and contributors is presented in Section 5. The persons and agencies contacted in the preparation of this EA, brief summary of comments received, and responses to those comments are presented in Section 6. The references used in preparation of this EA are presented in Section 7. A list of acronyms and abbreviations is

## PURPOSE AND NEED FOR THE ACTION

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provided in Section 8. The appendices provide supporting documents used in preparation of this EA.

## **2 ALTERNATIVES INCLUDING THE PROPOSED ACTION**

This section of the EA describes the Proposed Action and alternatives to the proposed action, including the No Action Alternative analyzed in this EA. It also identifies the alternatives that Dover AFB has eliminated from detailed analysis. Alternatives carried forward for analysis in this EA were identified as meeting the underlying purpose and need for the action. The No Action Alternative is carried forward for analysis as a baseline to which all other alternatives are compared in accordance with NEPA §1502.14(d). This section concludes with a comparative summary of the Proposed Action and alternatives.

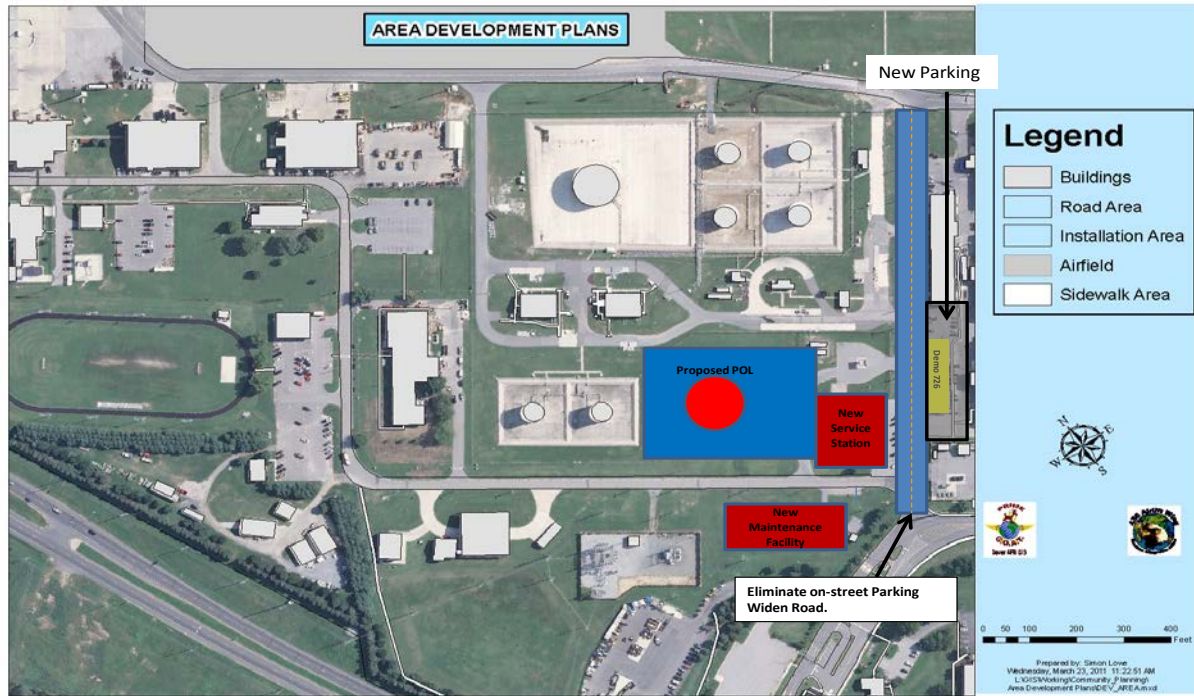
### **2.1 Identification of Selection Criteria**

In an effort to satisfy the purpose and need for the Proposed Action, several selection criteria were developed to compare and contrast alternative ways of fulfilling the objectives of the Proposed Action in accordance with 32 CFR §989.8(c). Those specific criteria include:

- 1. Alternatives Must Be Financially Reasonable.** The design of the new fuel storage capacity must be within financial availability for funding.
- 2. Alternatives Must Be In Accordance with Security Procedures.** All alternatives are required to meet current security procedures.
- 3. Minimize environmental impacts.** To the greatest extent possible, the design and implementation of any increased fuel storage capacity should avoid sites with prior contamination, and conform to all associated environmental regulations specifically but not limited to the underground and aboveground storage tank regulations.

### **2.2 Description of the Proposed Action**

The Proposed Action is to construct an additional 80,000 barrel (approximately 3.3 million gallons) aboveground storage tank with all the secondary containment and environmental provisions required by the aboveground storage tank regulations. The proposed action will locate this new tank south of existing storage tanks 756 and 757 on the eastern side of Atlantic Street Extended. The proposed location will displace the existing Base Service Station, which will be reconstructed at the intersection of Paris and Orly Streets. The proposed action will also construct a new Fuels Management Facility on the western side of Paris Street and demolish the existing Fuels Management facility, facility 726.



**Figure 2-1. Proposed Action for the Increase Fuels Capacity.**

### **2.2.1 Construction Activities**

The installation of the proposed action would be conducted to ensure no fuel supply issues impact the mission of the existing C5s and C17s.

Actual construction activities will take extreme caution not to disturb any environmentally sensitive areas that were previously identified, and will cease activities upon discovery of items that require expert evaluation, characterization, and disposal.

### **2.2.2 Environmental Controls**

Prior to initiation of construction activities, plans and documents would be prepared by the contractor to provide environmental controls. These plans and documents would be submitted to the contracting officer for review and approval. Environmental measures under the Proposed Action would be designed to control erosion, sedimentation, and stormwater runoff. All construction debris would be recycled or disposed of at an approved landfill in accordance with all applicable federal, state, and local laws and regulations.

To reduce impacts to local and regional air quality, best management practices (BMPs), such as proper maintenance of construction vehicles to reduce combustive emissions, limiting the size of the disturbance area, and watering exposed soils at the beginning and end of daily construction activities, would be implemented to minimize or prevent fugitive dust emissions.

In accordance with Chapter 40, Title 7, Delaware Code, the State of Delaware, the Department of Natural Resources and Environmental Control (DNREC) Sediment and Stormwater Program manages the USEPA National Pollutant Discharge Elimination System (NPDES). Delaware requires that all construction sites greater than 5,000 square feet must submit and implement a Sediment and Stormwater Management Plan. This Plan requires a design report, all pertinent information from the Sediment and Stormwater Management Plan Checklist, completed Plan Checklist, project specifications, pre-application meeting, and weekly reviews by a Certified Construction Reviewer. The Erosion and Sediment Control portion of the Plan must include BMPs to reduce or eliminate the potential for erosion and sediment deposition from the construction activities. Prior to the start of construction activities, a notice of intent must be filed with EPA prior to the start of activities. Additionally, in accordance with the Sediment and Stormwater Management guideline, post-construction BMPs may be required.

## **2.3 Alternatives to the Proposed Action**

### **2.3.1 No Action Alternative**

Although it would not satisfy the purpose and need for the action, a No Action Alternative has been carried forward as the baseline against which potential impacts arising from the action alternatives can be measured. The No Action Alternative is carried forward for analysis in accordance with NEPA §1502.14 (d). Under the No Action Alternative, current fuel storage capacity would remain, and during times when the fuel storage pipeline was inoperable, additional fuel would be brought on base through mobile vehicles.

### **2.3.2 Alternative 1 – Increase Fuel Storage Constructed on western side of Atlantic Street Extended**

Alternative 1 to the Proposed Action would be to provide the increased fuel storage capacity on the western side of the existing Atlantic Street Extended. Relocation of the Base Service Station would not be needed, however, the location of the storage tank would be in the immediate vicinity of one of the primary drinking water wells which provides potable water to Dover AFB. This alternative would also locate the new storage tank closer to the Dover AFB security fence increasing potential security concerns.

### **2.3.3 Alternatives Eliminated from Detailed Analysis**

Unlike Alternative 1, 436 CES/CEA considered the installation of underground storage tanks for increased fuel storage capacity. However, cost and regulator input eliminated this alternative from discussion. The utilization of underground storage tanks would be a positive security procedure; however, the environmental regulations combined with limited availability of land to install the required capacity eliminated this alternative from further evaluation.

## **2.4 Resources or Issues Eliminated From Detailed Analysis in This Environmental Assessment**

CEQ regulations (§1501.7) state that the lead agency shall identify and eliminate from detailed study the issues which are not important or which have been covered by prior environmental review, narrowing the discussion of these issues in the document to a brief presentation of why they would not have a dramatic effect on the human environment. In accordance with §1501.7, resources or issues eliminated from detailed analysis include: land use, noise, airspace and occupational health and safety impacts.

#### **2.4.1 Land Use**

Land use describes the activities that take place in a particular area and generally refers to human modification and occupation of land, usually for residential or commercial purposes. The Proposed Action or alternatives would be consistent with present and foreseeable land use patterns at Dover AFB in accordance with its General Plan. The Proposed Action would support the principal land use of the site and would not change the existing land use. Therefore, this resource has been eliminated from detailed analysis in this EA.

#### **2.4.2 Noise**

Noise is defined as any sound that is undesirable because it interferes with communication, intense enough to damage hearing, or is otherwise intrusive. The proposed increase in fuels storage capacity would be short term and not be a significant contributor to the existing noise environment compared to C-5 and C-17 aircraft based at Dover AFB and any transient aircraft that visit the base. The use of standard operating procedures for minimizing noise such as operation during work hours and using mufflers on equipment would be mandated for the Proposed Action. Implementing the Proposed Action or alternatives would not alter ambient noise levels at or adjacent to the project site. Therefore, this issue has been eliminated from detailed analysis in this EA.

#### **2.4.3 Airspace**

Implementing the Proposed Action or alternatives would not alter the airspace of aircraft operations at Dover AFB. Transport of materials and equipment for the Proposed Action would not involve aircraft operations. Therefore, this issue has been eliminated from detailed analysis in this EA.

#### **2.4.4 Occupational Health and Safety Impacts**

Implementing the Proposed Action or alternatives would not change current work practices of any Air Force personnel. Workers associated with fuel operations would be responsible to perform necessary inspections of new storage tank. This duty is already being conducted by appropriately trained personnel. During implementation, workers involved with the project would act under the approved Health and Safety Plan for their associated companies. Therefore, since no Dover AFB work practices are impacted, this issue has been eliminated from detailed analysis in this EA.

## 2.5 Comparison of Alternatives

Table 2-1 provides a summary comparison of the alternatives as they relate to the alternative selection criteria presented in Section 2.1. This table indicates that the Proposed Action and Alternative 1 would meet the established purpose and need for the action. However the Proposed Action would provide a greater benefit to minimizing environmental impacts and security procedures due to the location of the storage tank in Alternative 1. The No Action Alternative is carried forward as a baseline for analysis of the action alternatives.

**Table 2-1. Summary Comparison of Alternatives**

Alternative Selection Criteria	Alternatives		
	Proposed Action	Alternative 1	No Action
Financially Reasonable	Yes	Yes	Yes
Security Procedures	Yes	No	Yes
Minimize environmental impacts	Yes	No	Yes

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### **3 AFFECTED ENVIRONMENT**

This section of the EA describes the relevant environmental conditions at Dover AFB for resources that would be potentially affected by implementation of the Proposed Action or one of the alternatives. Although the region of influence (ROI) or the expected geographic scope of potential impacts includes all of Dover AFB, the actual limit of disturbance for the Proposed Action would be the existing fuel storage compound and the area surrounding the base service station along with the demolition of Facility 726 and the construction of a new fuels control facility. In compliance with guidelines contained in NEPA, the CEQ regulations, and 32 CFR §989, the description of the affected environment focuses on those resources potentially subject to impacts.

#### **3.1 Air Quality**

The CAA (42 USC 7401-7671q), as amended, gives the USEPA the responsibility to establish the primary and secondary National Ambient Air Quality Standards (NAAQS) (40 CFR §50) that set safe concentration levels for six criteria pollutants: particulate matter measuring less than 10 microns in diameter (PM<sub>10</sub>), sulfur dioxide (SO<sub>2</sub>), carbon monoxide (CO), nitrous oxides (NO<sub>x</sub>), ozone (O<sub>3</sub>), and lead (Pb). Each state has the authority to adopt standards stricter than those established under the federal program; however, Delaware accepts the federal standards (Table 3-1).

Primary NAAQS are established to protect public health, and secondary standards provide protection for the public welfare, which includes wildlife, climate, transportation, and economic values. Areas that violate air quality standards are designated as “nonattainment” areas, and areas that comply with air quality standards are designated “attainment” areas for the relevant pollutants.

In areas currently designated as being in nonattainment, federal agencies are required to determine whether their Proposed Action would increase emissions of criteria pollutants above threshold levels (40 CFR §93.150–93.160). To ensure that federal actions do not interfere with a state’s timely attainment of the NAAQS, the CAA requires that federal agencies demonstrate that their actions conducted in nonattainment and maintenance areas conform to the purposes of the State Implementation Plan (SIP). According to the implementing regulation, promulgated by the USEPA, proposed federal actions must be specifically identified in the SIP, must have minor

emissions below threshold levels identified in the regulations, or must offset any resulting increases in emissions.

**Table 3-1. National Ambient Air Quality Standards**

Air Pollutant	Averaging Time	NAAQS	
		Primary	Secondary
CO	1-hour	35 ppm	35 ppm
	8-hour	9 ppm	9 ppm
NO <sub>x</sub>	Annual	0.053 ppm	0.053 ppm
	3-hour	-	0.50 ppm
SO <sub>2</sub>	24-hour	0.14 ppm	-
	Annual	0.03 ppm	-
PM <sub>10</sub>	24-hour	150 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
	Annual	50 µg/m <sup>3</sup>	50 µg/m <sup>3</sup>
O <sub>3</sub>	1-hour	0.12 ppm	0.12 ppm
	8-hour	0.08 ppm	0.08 ppm
Pb	Quarterly average	1.5 µg/m <sup>3</sup>	1.5 µg/m <sup>3</sup>

ppm = parts per million

µg/m<sup>3</sup> = micrograms per cubic meter

Source: USEPA 2005a

The ROI for air quality impacts for the action would be the area immediately surrounding Dover AFB. For analysis purposes, the emissions produced for the Proposed Action are compared to local data and implementation plans in Kent County, Delaware. Under the CAA, Kent County is classified as a severe nonattainment area for ground-level O<sub>3</sub> with respect to the 1-hour NAAQS and moderate nonattainment with respect to the 8-hour NAAQS (USEPA 2005b).

Dover AFB existing Regulation 30 (Title V) air permit requires the maintaining of fuel transfer records to account for volatile organic compounds (VOCs). The construction of additional fuel storage would require modification of such permit to include such site changes. In addition, any potential emission calculations from proposed new storage tanks could be offset from the pending demolition of the two bulk storage tanks at the Central Heat Plant.

### 3.2 Transportation

Transportation in this EA refers to the roadway systems that enable persons and goods to move about on Dover AFB and in the vicinity. The number of vehicles that can pass over a given section of roadway during a specified period generally measures roadway capacity. This

capacity is usually considered in terms of levels of service, which is a qualitative measure describing operational conditions within a traffic stream; it is described in terms of speed and travel time, freedom to maneuver, traffic interruptions, comfort and convenience, and safety.

The upgrade of U.S. 113, which was part of the construction for State Route (SR) 1 from the New Castle County area to SR-9 along the southern boundary of Dover AFB, included a new overpass that provides direct access to the Main Gate. SR-10 provides direct access to the North Gate from the west. The surrounding highway network is adequate to handle the present and prospective transportation needs of Dover AFB. The Dover AFB roadway system safely handles and distributes vehicular movements with a minimum amount of congestion and delay. This includes traffic movements onto and off the base as well as movement within the base. Atlantic Street is the major collector road. It handles a significant portion of all personal owned vehicles and tractor-trailers that enter the base through the North Gate. The construction of a walking path by Kent County in and around Dover AFB has allowed for increased pedestrian traffic as well as recreational activities. The addition of the pathway associated with this portion of the project will provide a small loop allowing those who are not interested in walking the entire trail can utilize a small subsection.

### **3.3 Water Resources**

Water resources for this project include groundwater, stormwater management, wetlands and the 100 year floodplain.

#### **3.3.1 Groundwater**

The Columbia Aquifer is the surficial unconfined aquifer underneath Dover AFB. The Frederica, Cheswold, and Piney Point aquifers are the confined aquifers in succession underneath the Columbia Aquifer. A potable well located in Facility 644 draws water from the Cheswold aquifer. The well is one of four wells that provide potable water for Dover AFB. A Wellhead Protection Plan, dated January 2005 shows the proposed action within Zone 2 wellhead protection area. Alternative 1 would be within Zone 1 wellhead protection area.

Two environmental restoration program (ERP) sites are located within the footprint of the Fuel Tank Farm. The first site is SS10 which was the location of three spills from the aboveground storage tank #733. All three spills were contained in the unlined berms and recovered. The

second site, OT52, is the result of fuel releases from the oil/water separators at the Fuel Tank Farm. Both sites are regulated via the Resource Conservation and Recovery Act and the Delaware Tank Management Program. DNREC has regulatory authority over these sites. Investigations and remedial activities have been completed and both sites are in conditional no further action status. Groundwater monitoring occurred during the ERP process starting in 1993 and ending in 2000. A summary of the 2000 results are below.

**Table 3.2 – Groundwater Contaminant Detections at SS10 and OT52**  
**Final Sampling Event December 2000**  
 (all values in µg/L)

	SS10				OT52				
Sample ID:	MWNTF	DM338S	DM338S	MW78S	DM385S	DM386S	MW76S	DM335S	Risk-Based Screening Level (RBSL) <sup>(1)</sup>
Volatile Organic Compounds (VOCs):									
Benzene		3.7	3.7						19,000
Ethylbenzene		0.37	0.38						170,000
Toluene									520,000
Xylenes		1.9	2						200,000
1,2-Dichloroethane									33,000
Isopropyl benzene		4.9	5				2.2		50,000
Methyl tert-butyl ether	1.4			3.7			260		12,000
Semi-Volatile Organic Compounds (SVOCs)									
Naphthalene		3.4	1.62						31,000
Phenanthrene									1,600

<sup>(1)</sup>RBSLs for jet fuel under the Delaware Risk-Based Corrective Action Program (DERBCAP). Although contaminants are present, they are in concentrations below action levels. Neither of the alternatives will penetrate the groundwater table, and therefore, there is no risk of exposure to residual contaminants in groundwater.

### 3.3.2 Stormwater Management

Stormwater flow at the proposed action area will traverse the airfield and discharge Dover AFB via outfall 003. Dover AFB monitors outfall 003 for pollutants as required by our multi-sector EPA permit. Outfall 003 is particularly monitored for deicing activities. Spill containment is available through installed sluice gates and other options as necessary to match the spilled material. The construction of the proposed action will require a sediment and erosion control permit through the Environmental Protection Agency. The established process for the contractor

to obtain this coverage will be explained to contractor during design and installation phases of selected action.

### **3.3.3 Wetlands**

The Federal Water Pollution Control Act, as amended by the CWA of 1977, was enacted to protect valuable, irreplaceable resources. The Water Pollution Prevention and Control Act (33 USC 26), also known as the CWA Amendments, set the national policy objective to restore and maintain the chemical, physical, and biological integrity of the Nation's waters.

Jurisdictional waters, including surface water and wetlands as defined in 33 CFR §328.3, are regulated under Sections 401 and 404 of the CWA and Section 10 of the Rivers and Harbors Act. Wetlands are those areas inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for saturated soil (Environmental Laboratory 1987). No wetlands identified in the 2009 wetlands survey will be impacted by the proposed action.

### **3.3.4 Floodplains**

Dover AFB does contain some areas located within the 100-year flood plain. These areas include the drainage swale at outfall 003 on the eastern portion of the facility and the end of the storm-water quality control device located on the golf course which discharges Dover AFB via outfall 007. No floodplains are impacted by the proposed action.

## **3.4 Geology and Soils**

Geology and soils in this EA include the physiographic and topographic features that formed the soil types in the vicinity. Kent County lies in the Coastal Plain Plateau Province, which is lowland that borders the Atlantic Ocean (Dover AFB 2001). The Coastal Plain Plateau Province is generally flat, seaward sloping lowland with some moderately steep local relief. The Coastal Plain is generally underlain by semi-consolidated to unconsolidated sediments that consist of silt, clay, and sand with some gravel and lignite.

The topography is nearly level to gently sloping. The soil in the proposed project site is classified as urban land complex. The soil type is Sassafras Loam, two to five percent slopes. All areas of this soil type are prime farmland; however, the dedicated land use of the site precludes applicability of this designation. This soil type is well drained and has very high

available water capacity. This soil type is not flooded and is not ponded. The water table is deeper than six feet. Sassafras Loam is not a hydric soil (University of Delaware 2005).

### **3.5 Socioeconomics and Environmental Justice**

Socioeconomics is the study of the prevailing population, income, employment, and housing characteristics of a community or area of interest. Environmental Justice refers to an ongoing effort by the federal government to assure decision makers that any adverse effects associated with proposed actions would not disproportionately be borne by populations of special concern. EO 12898 Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations issued in 1994, tasks federal agencies with the responsibility to provide this assurance as part of NEPA decision making assessments. If minority or low-income groups were to experience a disproportionate adverse effect from a proposed action, then avoidance or mitigation measures are to be taken. The ROI for the Proposed Action is Kent County, Delaware.

#### **3.5.1 Population and Demographics**

The population in Kent County increased approximately 14 percent between 1990 (110,993) and 2000 (126,697). The population increased again approximately 26% between 2000 and 2010 (162,310) (U.S. Census Bureau [USCB] 2012).

The majority of the population in Kent County is White, non-Hispanic. The percent of minorities was 32.2 percent of the population, which falls below the threshold for a concentrated minority population. (USCB 2012).

#### **3.5.2 Income and Employment**

The median household income in Kent County is \$53,183 compared to Delaware's \$57,599.

The unemployment rate in Delaware is 6.8% and Kent County is 7.2% (Bureau of Labor Statistics, 2012). The poverty rate in Kent County is 12.5% compared to 11% for the State of Delaware (USCB 2012).

### **3.6 Hazardous Materials and Wastes**

Hazardous material is defined by the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), Solid Waste Disposal Act, and Emergency Planning and

Community Right-to-Know Act (EPCRA) as a substance that, because of quantity, concentration, or physical or chemical characteristics, may present substantial danger to public health, welfare, or the environment. The term hazardous waste, as defined by the Resource Conservation and Recovery Act (RCRA), means any solid, liquid, contained gaseous or semisolid waste, or any combination of wastes that pose a substantive present or potential hazard to human health or the environment. Hazardous wastes must exhibit a characteristic of toxicity, reactivity, ignitibility, or corrosively, or be listed as a hazardous waste as indicated in 40 CFR §261 and §263, respectively.

CERCLA and the Superfund Amendments and Reauthorization Act (SARA) of 1986 authorize the USEPA to respond to spills and other releases of hazardous substances to the environment. It also authorizes the National Oil and Hazardous Substances Pollution Contingency Plan. Title III of SARA authorizes EPCRA, which requires facility operators with hazardous substances to prepare comprehensive emergency plans and to report accidental releases. EO 12856 (Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements, August 1993) requires federal agencies to comply with the provisions of EPCRA.

The Proposed Action may require the use of small amounts of hazardous materials. Hazardous wastes may be generated during construction activities depending on characteristics of impacted soil. Hazardous materials and wastes are managed at Dover AFB in accordance with applicable regulations and plans such as the Hazardous Material Plan and Spill Prevention, Control and Countermeasures Plan.

The Proposed Action installs an additional 80,000 barrel storage tank and relocates the base service station which includes moving three additional aboveground storage tanks. Alternative 1 also installs the additional 80,000 barrel storage tank. The additional bulk storage tank will require environmental compliance with the Delaware Regulations Governing Aboveground Storage Tanks pertaining to secondary containment, cathodic protection among other engineering controls to ensure continued compliance.

Through an August 1997 base-wide remedial investigation, 59 Environmental Restoration Program (ERP) sites were identified as having hazardous or potentially having hazardous contamination (Dover AFB 2005a). Two environmental restoration program (ERP) sites are located within the current footprint of the Fuel Tank Farm. The first site is SS10 which was the



location of three spills from the aboveground storage tank #733. All three spills were contained in the unlined berms and recovered. The second site, OT52, is the result of fuel releases from the oil/water separators at the Fuel Tank Farm. Both sites are regulated via the Resource Conservation and Recovery Act and the Delaware Tank Management Program. DNREC has regulatory authority over these sites. Investigations and remedial activities have been completed and both sites are in conditional no further action status.

In accordance with the DNREC conditional No Further Action notice, no further remedial action is required at sites SS10 and OT52 provided the following conditions are met:

- a) Residential land use at the site is not allowed.
- b) Proper maintenance and security of on-site monitoring wells, or proper abandonment of such wells is required in accordance with DNREC regulations.
- c) In the event that CERCLA regulated chemicals should be detected at this site, appropriate action must be undertaken in accordance with federal and State requirements.
- d) Any excavated soils from this site comprise solid waste and may not be re-used as “clean fill”. Excavated soils may be (a) incorporated into on-site landscaping provided they are seeded or otherwise secured against erosion, or (b) used as random on-site fill provided they are not placed in drainageways or in locations where persons on-site may come into direct contact with them. On-site re-use of excavated soils must be approved in advance by the DNREC Tank Management Branch.
- e) If excavated soils are transported off-site, they must be hauled by a State-licensed solid waste hauler and disposed or remediated in an approved manner.
- f) If excavated soils are remediated on-site (e.g., a “biopile”), a plan to accomplish the remediation must be approved in advance by the DNREC Tank Management Branch.
- g) If the petroleum compounds remaining in the soil or groundwater on-site are disturbed in the future by excavation, boring, dewatering or other means, a contaminated media management plan (CMMP) must be approved in advance by the DNREC Tank Management Branch.

DAFB maintains a Lands Use Controls implementation plan as an appendix to the Base General Plan (DAFB, 2011). This plan is periodically updated and submitted to federal and State regulators for approval. The implementation plan details the restrictions, land use controls, and administrative requirements associated with contaminant release sites on DAFB. For sites SS10 and OT52, the plan states that soil and groundwater at the sites may not be disturbed by excavation, boring, dewatering, or other means, unless a CMMP is prepared and submitted to DNREC, and DNREC's written approval of the plan is obtained. Therefore, all proposed construction and/or soil disturbing activities within the boundaries of the older portion of the tank farm where these sites are located must be pre-coordinated with 436 CES/CEAN, the responsible organization for submitting plans and obtaining approvals from DNREC. The older portion of the tank farm includes the bermed areas surrounding tanks 730, 731, 732, 733 and 734.

The proposed action and alternatives are outside of these areas and will not disturb either of the land associated with sites SS10 and OT52. Thus, a CMMP is not required.

However, with the nature of the Base Service Station, the potential still exists for encountering contaminated soil with levels of contaminants that may require disposal through special avenues. Any excess soil will be required to be analyzed for proper disposal through Dover AFB policy.

### **3.7 Biological Resources**

Biological resources typically evaluated in EAs include vegetation, wildlife, and protected species. According to the 1993 and 1998 Biological/Ecological Inventory and subsequent documentation from the Delaware Natural Heritage and Endangered Species Program (DNHP) dated 17 Jan 06, there are no known federally listed threatened or endangered species, federally listed or candidate species for animals or plants present at Dover AFB that require protection and/or management. The Delaware Division of Fish and Wildlife developed a Comprehensive Wildlife Conservation Strategy (CWCS) for determining animal Species of Greatest Conservation Need (SGCN). The SGCN list is divided into Tier 1 and Tier 2 criteria. Tier 1 species are those that are most in need of conservation action in order to sustain or restore their populations. They are the focus of the CWCS, which is based on analyzing threats to their

populations and their habitats, and on developing conservation actions to eliminate, minimize or compensate for these threats.

Tier 2 species are also in need of conservation action, although not with the urgency of Tier 1 species. Their distribution across the landscape will help determine where CWCS conservation actions will be implemented on the ground. Following the SGCN list, the following Tier 1 and Tier 2 species have been identified on DAFB.

**Table 3.3. Tier 1 and 2 Species Identified on DAFB**

Species	Tier	Location
Mud Sunfish	1	Located in a mass of old discarded tires in the St. Jones River near MFH in the 1993 survey.
American Redstart	1	Observed in the woodlots in 1998
Broad-winged Hawk	1	A pair of broad-winged hawks and their nest were observed on the forest edge of during the summer of 1990.
Common Nighthawk	1	Observed on the base and Bergold Farm in the 1993 survey.
Loggerhead Shrike	1	Observed on the base and Bergold Farm in the 1993 survey.
Northern harrier	1	Observed using the base and Bergold Farm as foraging sites in 1998.
Short-eared Owl	1	Observed once in the autumn of 1990 in the same vicinity as the broad-winged hawks.
Upland Sandpiper	1	On 22 June 3002, three observers noted the presence of two adult and three juveniles near the intersection of Route 9 and Bergold Farm Road. The observers subsequently observed an additional two adults along Route 9 closer to Kitts Hummock Road. The observation of three juveniles is of particular interest since it was within the safe dates of 20 May and 25 June. A site visit by DNHP personnel was conducted on 16 July 2003 and even though no birds were spotted, the area was determined to have the appropriate habitat for breeding activities. Thus, the DNHP considers this a valid breeding record and the area of the Bergold Farm would be part of this record. In addition, this species has been observed at DAFB on six occasions between 1969 and 1984. The late dates of these sightings, and especially the nine individuals that occurred through the summer of 1983, indicated that the species was likely breeding on base. In 1990 and 1991 this large sandpiper was noted in groups of four to 29 individuals within the short grass airfield “triangle” in the southeast corner of the base.
Wood Thrush	1	Observed on the base in 1998.
Fourspine stickleback	2	Found along the Pipe Elm Branch, which feeds into the Delaware Bay in the 1993 survey
Black-and-white Warbler	2	Observed in the woodlots in 1998.

Bobolink	2	Spotted on Bergold Farm in 1998.
Grasshopper Sparrow	2	Observed on Bergold Farm 16 July 2003 and in 1998.
Great blue heron	2	Observed many times foraging along both Pipe Elm Branch and the St. Jones River in 1993.
Great Egret	2	Observed on the base in 1998.
Veery	2	Observed on the base in 1998.

None of these species would be in the immediate area of the proposed action.

### **3.8 Coastal Zone Management (CZM)**

Dover AFB is located in the coastal zone regulated by the Delaware Coastal Zone Act. Dover AFB's management procedures for compliance with the coastal zone regulations are as follows:

- CZM applicability will be reviewed during Environmental Impact Analysis Program evaluation. A majority of projects will have no impact on CZM regulations and a negative determination would not be required as outlined in 15 CFR 930.33.  
Therefore, only the type of projects described below will not meet the requirements of 15 CFR 930.33 and would require a submittal to DNREC.
- Projects involving work in wetlands (regardless of the necessity to obtain a Corps of Engineers permit) shall be reviewed for impact to the coastal zone and a negative impact determination or applicable submittal shall be prepared and submitted to DNREC.
- Projects involving work which would impact any federally endangered species or state species of concern shall be reviewed for impact to the coastal zone and a negative impact determination or applicable submittal shall be prepared and submitted to DNREC.

The proposed action does not involve either of the two scenarios explained, thus, no coordination with the regulators pertaining to Coastal Zone impact for this project is required.

### **3.9 Cultural Resources**

The NHPA of 1966 (16 USC 470 et seq., as amended), the Archeological and Historic Preservation Act of 1974 (16 USC 469a et seq.), and the Archeological Resources Protection Act

of 1979 (16 USC470aa-470ll) are designed to ensure adequate consideration of the values of historic properties in carrying out federal activities and to attempt to identify and mitigate impacts to significant historic properties. Historic resources include buildings, structures, objects, landscapes, and archeological sites, as well as places of importance to a culture or community for reasons of history, religion, or science.

As outlined in the Dover AFB Integrated Cultural Resources Management Plan dated October 2011, there are no archeological sites in the vicinity of the proposed action. Facility 726 was evaluated for potentially being historic because it was older than 50 years of age. An architectural historian evaluated the facility in 2011 and deemed the facility as not being eligible for listing on the National Register of Historic Places. The Delaware State Historic Preservation Office concurred with the finding in correspondence dated April 13, 2012.

#### 4 ENVIRONMENTAL CONSEQUENCES

This section of the EA provides an analysis of the environmental consequences. Table 4-1 provides a summary of the environmental consequences associated with implementing those alternatives carried forward for detailed analysis.

**Table 4-1. Alternatives Comparison Matrix Summary**

Resources/Issues (Threshold Criteria)	Alternatives		
	Proposed Action	Alternative 1	No Action
Air Quality <i>(emissions above de minimis)</i>	No	No	No Change
Transportation <i>(level of service)</i> <i>(pedestrian circulation)</i>	No Change	No Change	No Change
Water Resources <i>(within the 100-year floodplain)</i> <i>(exceeds stormwater capacity)</i> <i>(wetland impacts)</i> <i>(groundwater within construction limits)</i>	No No No No	No No No Yes	No Change
Geology and Soils <i>(change in topographic relief)</i> <i>(soil capability loss)</i>	No No	No No	No Change
Socioeconomics and Environmental Justice <i>(change in personal income or employment)</i> <i>(minority and/or low-income populations affected)</i>	No No	No No	No Change
Hazardous Materials and Wastes <i>(hazardous materials onsite)</i> <i>(release of hazardous materials)</i>	Yes Yes	Yes Yes	No Change

## **4.1 Air Quality**

Impacts to air quality would be considered significant if project emissions exceeded the NAAQS, exceeded the *de minimis* exemption levels, or exposed sensitive receptors to increased pollutant concentrations. Potential emissions for the ozone precursor pollutants, NO<sub>x</sub> and volatile organic compounds (VOC), were estimated for the General Conformity Rule applicability analysis.

### **4.1.1 No Action Alternative**

Under the No Action Alternative, the existing fuel storage capacity would remain unchanged. Therefore, no changes to the current air quality would occur if this alternative was selected.

### **4.1.2 Proposed Action – Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementation of the Proposed Action would have temporary, minor impacts to the local air quality. Fugitive dust (PM<sub>10</sub>) from ground-disturbing activities, and combustive emissions from equipment used in implementation of stabilization technologies would be generated during the Proposed Action. The quantity of uncontrolled fugitive dust emissions from a construction site is proportional to the area of land being worked and the level of construction activity. Emissions from activities associated with site clearing, grading, and from vehicular traffic moving over the disturbed site would be greatest during the initial site preparation activities and would vary from day to day depending on the construction phase, level of activity, and prevailing weather conditions. A conservative estimate of PM<sub>10</sub> emissions for construction and demolition activities provided by the USEPA is 1.2 tons/acre/month of activity (USEPA 1995). The project area would be approximately 3.5 acres and expected to last for up to three months (12.6 tons of PM<sub>10</sub>). Watering exposed soil at the beginning and end of each day according to BMPs would decrease the amount of fugitive dust by as much as 50 percent released into the atmosphere from construction operations and trucks driving on unpaved surfaces. Therefore, impacts from fugitive dust are expected to be minimal and temporary.

Emissions from the proposed construction activities are expected to be minimal, short-term, and below *de minimis* values (Table 4-2). Therefore, the General Conformity Rule does not apply to the Proposed Action.

In addition, the presence of a 3.3 million gallon storage will add 1.102 tons per year of Volatile Organic Compounds pertaining to fuel storage transfer of the associated jet fuel. These

calculations were derived from the same EPA software utilized to calculate the current Dover AFB air emissions inventory pertaining to aboveground storage tanks. The addition of those VOCs still resulting in de minimis levels for the proposed action.

**Table 4-2 Emission Estimates (tons per year)**

	Carbon Monoxide	Volatile Organic Compounds	Nitrogen Oxides	Sulfur Oxides
Construction Equipment Exhaust	2.24	0.30	5.47	0.59
Worker Vehicles	0.75	0.05	0.05	0
Storage Tank	0	1.102	0	0
TOTAL	2.28	1.402	5.47	0.59
de minimis levels	N/A	25	25	N/A

#### **4.1.3 Alternative 1 – New Storage Tank on West Side of Atlantic Street Extended**

Implementation of Alternative 1 would have similar impacts as those described for the Proposed Action. As with the Proposed Action, emissions would be considered and below de minimis levels.

#### **4.1.4 Cumulative Impacts**

Implementing the No Action, Proposed Action, or Alternative 1 would not result in cumulative impacts. Emissions associated with the new storage tank would be included in the existing Dover AFB Title V air permit. Offsetting VOCs from this tank is the pending demolition of the Central Heat Plant aboveground storage tanks.



## **4.2 Transportation**

Impacts to transportation would be significant if traffic counts, roadway design and geometry, or signalization, changed the capacity and efficiency of the roadway access and transportation system at Dover AFB.

### **4.2.1 No Action Alternative**

Under the No Action Alternative, none of the proposed construction activities would occur and baseline traffic conditions would remain unchanged.

### **4.2.2 Proposed Action – Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementing the Proposed Action would have short term, minor impacts on the roadway system at Dover AFB during construction activities. Traffic would not need to be rerouted to avoid construction activities and there are no long-term benefits of the Proposed Action pertaining to transportation. Transportation systems off the base would not be impacted by the proposed construction activities; consequently, there would be no change to planning assumptions or recommended roadway improvements in the vicinity.

### **4.2.3 Alternative 1 – New Storage Tank on West Side of Atlantic Street Extended**

Similar to the Proposed Action, implementing Alternative 1 would have short term, minor impacts on the roadway system at Dover AFB during construction activities, would not have any long term benefits and not impact transportation systems off the base.

### **4.2.4 Cumulative Impacts**

The implementation of stabilization technologies as outlined in the Proposed Action or in Alternative 1 would not result in cumulative impacts to future development.

## **4.3 Water Resources**

Impacts to water resources would be considered significant if implementation of the action resulted in changes to water quality or supply, threatened or damaged unique hydrologic characteristics, or violated established laws or regulations.

### **4.3.1 No Action Alternative**

Under the No Action Alternative, there would be no change to the water resources at Dover AFB. The proposed construction activities would not occur; therefore, no impacts would occur to water resources in the project site.

### **4.3.2 Proposed Action - Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementing the Proposed Action would not impact groundwater resources since the proposed would include designing the fuel storage tank with secondary containment and other environmental safe practices to notify Dover AFB personnel of any tank leaks that could potentially impact the soil or groundwater. The drinking water well would not be impacted since construction of large tank is outside of the 150 feet quoted by DNREC for construction within the well itself, and the potable well is in the Cheswold Aquifer thus groundwater impact from a fuel leak would not immediately impact well operations. The Proposed Action could result in minor impacts to water quality from surface water runoff following storm events during construction activities; however, BMPs outlined in the Sediment and Stormwater Management Plan prepared for the action would be implemented to minimize impacts from erosion and sedimentation.

Implementing the Proposed Action would not impact any wetlands or 100-year floodplains.

### **4.3.3 Alternative 1 - New Storage Tank on West Side of Atlantic Street Extended**

Implementing Alternative 1 is expected to have the same impacts to surface water quality and stormwater management as the proposed action. Also, no wetlands or 100-year flood plains would be impacted. However, the location of the new fuel storage tank would be located close to or within 150 feet of the potable drinking water well impacting the wellhead protection regulations quoted by DNREC personnel. Therefore, the location of the tank in this alternative cannot be supported due to issues with wellhead protection regulations.

### **4.3.4 Cumulative Impacts**

Implementing the Proposed Action, or No Action Alternative would not result in cumulative impacts to water resources. The potential short-term impacts to water quality during construction activities would cease upon completion of the project. Alternative 1 cannot be supported because of its proposed location within 150 feet of the potable drinking water well.

#### **4.4 Geology and Soils**

Impacts to geology and soils would be considered significant if the proposed construction activities altered aquifer recharge zones or were located near faults or other geological hazards. Impacts to soils can occur if erosion control measures are not properly implemented.

##### **4.4.1 No Action Alternative**

Under the No Action Alternative, there would be no change to the geology and soils at Dover AFB. The proposed construction activities would not occur; therefore, no impacts would occur to these resources in the project site.

##### **4.4.2 Proposed Action - Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementing the Proposed Action would not significantly affect geologic features underlying Dover AFB. Ground disturbance would occur during construction on undeveloped land along the St. Jones River bank. Construction activities involving ground disturbances would include grading and clearing; however, disturbances would not occur at depths that could potentially impact aquifer recharge zones.

Soils would be disturbed during construction activities on approximately 3.0 acres associated with the Proposed Action. However, erosion and sedimentation control measures such as silt fences, straw bales, sediment traps, application of water sprays, cut and fill balancing, and hydroseeding disturbed soils would be implemented to minimize impacts to soils. Therefore, only temporary and minor impacts to soils would be expected as a result of implementation of the Proposed Action.

##### **4.4.3 Alternative 1 - New Storage Tank on West Side of Atlantic Street Extended**

Similar to the Proposed Action, implementing Alternative 1 would not result in significant impacts to geology and soils at Dover AFB. Soils would be disturbed during construction activities on approximately 3.0 acres. However, BMPs would be implemented during construction to minimize impacts to soils associated with grading and clearing activities as specified for the Proposed Action. Therefore, only temporary and minor impacts to soils would be expected by implementing Alternative 1.

### **4.4.4 Cumulative Impacts**

Implementing the Proposed Action, Alternative 1, or No Action Alternative would not result in cumulative impacts to geology and soils at Dover AFB. The proposed construction activities or similar future actions would not affect geologic features because the activities do not require deep subsurface excavation on the undeveloped land.

### **4.5 Socioeconomic Resources**

Socioeconomic resources would be impacted if the action resulted in a change to the population, employment, or income potential in the ROI. The ROI is not considered an area with a concentrated minority population or poverty area; therefore, there are no environmental justice concerns.

#### **4.5.1 No Action Alternative**

Implementing the No Action Alternative would not change employment opportunities or change the population growth rate, and there would be no impacts to the social or economic characteristics in the ROI. Under the No Action Alternative, there would be no construction of new parking lots, access roads, and associated developments at Dover AFB that could generate socioeconomic impacts.

#### **4.5.2 Proposed Action - Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementing the Proposed Action would not result in significant impacts on the demographics, employment, or income potential in the ROI. The proposed construction activities would likely be conducted by outside contractors with employees from within the ROI. However, the economic benefits would be minor and short-term compared to regional economic generation. Since this alternative would not create any new employment opportunities, reduce the current number of employment opportunities, or change the population growth rate, there would be no anticipated impacts to the social or economic characteristics of the ROI.

#### **4.5.3 Alternative 1 - New Storage Tank on West Side of Atlantic Street Extended**

Similar to the Proposed Action, implementing Alternative 1 would not result in significant impacts on the demographics, employment, or income potential in the ROI. The construction of a new fuel tank, gas station and new fuels control center would involve a similar level of effort

as the Proposed Action. Similarly, the economic benefits would also be minor and short-term with no anticipated impacts to the social or economic characteristics of the ROI.

#### **4.5.4 Cumulative Impacts**

Implementing the Proposed Action, Alternative 1, or No Action Alternative would not result in cumulative impacts to socioeconomic resources. The short-term economic input to the ROI from the proposed construction would be negligible compared to the regional economic generation. No long-term impacts would be expected. In addition, the proposed construction activities would not generate future revenue or employment opportunities at Dover AFB.

#### **4.6 Hazardous Materials and Wastes**

Hazardous materials and wastes management at Dover AFB would be impacted if the construction activities resulted in a release of these materials into the environment. Potential releases to the air, water or soil that exceed federal and state guidance would be considered significant.

There may be residual contaminants in the soil that may not allow for unrestricted disposal of excavated soils. These contaminants may include petroleum products from spills unknown at this time. Any excavated soil that is not suitable for use on site would be stockpiled on site and tested to determine proper disposal requirements. Each stockpile of soil would be analyzed for the following items:

- a. Full TCLP (toxicity characteristic leachate procedure) to include ignitability, reactivity, corrosivity, metals, organics, pesticides and herbicides;
- b. Total Petroleum Hydrocarbons (TPH);
- c. Polychlorinated Biphenyls (PCBs);
- d. BTEX (Benzene, Toluene, Xylene, and Ethyl benzene); and
- e. Percent Solids.

The sample results would be submitted to Civil Engineer Squadron, Asset Management (CES/CEA) for interpretation. CEA will use the hazardous waste limitations in the code of federal regulations when evaluating the TCLP results to determine if the soil must be disposed of as hazardous waste. The other remaining parameters are required for disposal at a Delaware Solid Waste Authority (DSWA) facility and have associated DSWA limitations. Those limitations will be compared to the results to determine if the soil can be disposed of within the State of Delaware, only if the soil is not a hazardous waste. If soil is hazardous waste, it would

be disposed of accordingly at a disposal facility permitted to accept hazardous waste. If the soil is non-hazardous waste but does not meet the limitations of the DSWA, the soil would be disposed of at a disposal facility permitted to accept such waste.

Two environmental restoration program (ERP) sites are located within the footprint of the Fuel Tank Farm. The first site is SS10 which was the location of three spills from the aboveground storage tank #733. All three spills were contained in the unlined berms and recovered. The second site, OT52, is the result of fuel releases from the oil/water separators at the Fuel Tank Farm. Both sites are regulated via the Resource Conservation and Recovery Act and the Delaware Tank Management Program. DNREC has regulatory authority over these sites. Investigations and remedial activities have been completed and both sites are in conditional no further action status.

### **4.6.1 No Action Alternative**

Implementing the No Action Alternative would result in no impacts from hazardous materials or wastes since no construction activities would occur. Existing levels of hazardous materials or wastes from ongoing operations would be maintained and disposed of in accordance with applicable regulations.

### **4.6.2 Proposed Action - Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Implementing the Proposed Action could consume hazardous materials and/or generate hazardous wastes. The potential impacts would be short-term, approximately six months during construction activities. Hazardous materials used for construction activities would likely include fuels, paints, glues, and asphalt materials. Most of these materials would typically be consumed in their entirety and very little waste generated for disposal. As a result, no large amounts of construction-related hazardous materials would be expected, and any hazardous wastes generated during the activities would be disposed of in accordance with applicable federal, state, and local regulations. Long-term impacts would be expected due to presence of an additional 3.3 million gallons of jet fuel would be included in the Dover AFB Spill Prevention Control and Countermeasures (SPCC) and Facility Response Plan (FRP) to include changing the Dover AFB worst case scenario spill response exercises. The SPCC and FRP plans would require updating and compliance with these regulations as they pertain to the presence of a new 3.3 million gallon

storage tank would be required. Compliance as well with the aboveground storage tank regulations would apply to this new tank in design and during operation to ensure hazardous materials leaks or ruptures will not happen and if they would, the associated safety precautions are in place to protect health of workers and the surrounding environment.

The construction and long term impacts with the gas station would be similar to the No Action Alternative since the systems are already in place and operating, it would be relocated to a different location.

#### **4.6.3 Alternative 1 - New Storage Tank on West Side of Atlantic Street Extended**

Similar to the Proposed Action, implementing Alternative 1 could consume hazardous materials and/or generate hazardous wastes. However, no large amounts of construction-related hazardous materials or wastes would remain after construction activities and they would be disposed of in accordance with applicable federal, state, and local regulations. Therefore, there would be no impact from release of hazardous materials and wastes to the environment.

Alternative 1 would also require similar updates to the SPCC and FRP plans regarding the same changes as well as the requirements pertaining to the compliance of the new aboveground storage tank with applicable regulations.

#### **4.6.4 Cumulative Impacts**

Implementing the Proposed Action, Alternative 1, or No Action Alternative would not result in cumulative impacts from hazardous materials and wastes. Use of these substances would cease after the proposed construction activities. Future use of hazardous materials and wastes for planned development on Dover AFB would be handled and disposed of according to applicable federal, state, and local regulations. The proposed action and Alternative 1 would require changes to the Dover AFB SPCC and FRP to ensure continued compliance with environmental regulations. Both would also require continued compliance with aboveground storage tank regulations to ensure continued protection of health and the environment.

### **4.7 Biological Resources**

According to the 1993 and 1998 Biological/Ecological Inventory and subsequent documentation from the Delaware Natural Heritage and Endangered Species Program (DNHP) dated 17 Jan 06, there are no known federally listed threatened or endangered species, federally listed or

candidate species for animals or plants present at Dover AFB that require protection and/or management. The Delaware Division of Fish and Wildlife developed a Comprehensive Wildlife Conservation Strategy (CWCS) for determining animal Species of Greatest Conservation Need (SGCN). The SGCN list is divided into Tier 1 and Tier 2 criteria. Tier 1 species are those that are most in need of conservation action in order to sustain or restore their populations. They are the focus of the CWCS, which is based on analyzing threats to their populations and their habitats, and on developing conservation actions to eliminate, minimize or compensate for these threats.

Tier 2 species are also in need of conservation action, although not with the urgency of Tier 1 species. Their distribution across the landscape will help determine where CWCS conservation actions will be implemented on the ground. None of the species are in the Proposed Action area or the Alternative 1 area.

Implementing the No Action Alternative would result in no impacts in existing habitats. However, those habitats would continue to degrade due to erosion of river banking decreasing potential for various species to exist at the proposed project location

### **4.7.1 Proposed Action – Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Under the proposed action, no impacts to existing habitats would occur.

### **4.7.2 Alternative 1 – New Storage Tank on West Side of Atlantic Street Extended**

Similar to the proposed action, no impacts to existing habitats would occur.

### **4.7.3 Cumulative Impacts**

Implementing the Proposed Action, Alternative 1, or No Action Alternative would not result in cumulative impacts to biological resources.

## **4.8 Coastal Zone Management**

Impacts to coastal zone management would be considered significant if the proposed construction activities altered coastal resources.

### **4.8.1 No Action Alternative**

Under the no-action alternative, there is no impact with the coastal zone regulations.



#### **4.8.2 Proposed Action- Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

Under the proposed action, there is no impact with the coastal zone regulations.

#### **4.8.3 Alternative 1 – New Storage Tank on West Side of Atlantic Street Extended**

Similar to the proposed action, there is no impact with the coastal zone regulations.

#### **4.8.4 Cumulative Impacts**

Implementing the Proposed Action, Alternative 1, or No Action Alternative would not result in cumulative impacts to coastal zone management.

### **4.9 Cultural Resources**

As outlined in the Dover AFB Integrated Cultural Resources Management Plan dated October 2011, there are no archeological sites in the vicinity of the Fuels Management Facility or the Fuels Storage Compound. Facility 726 was evaluated for potentially being historic because it was older than 50 years of age. An architectural historian evaluated the facility in 2011 and deemed the facility as not being eligible for listing on the National Register of Historic Places. The Delaware State Historic Preservation Office concurred with the finding in correspondence dated April 13, 2012.

#### **4.9.1 No Action Alternative**

Under the No Action Alternative, there is no impact to cultural resources.

#### **4.9.2 Proposed Action- Increase Fuels Capacity thru Storage Tank in current Base Service Station Area**

With the proposed action, there are no impacts to cultural resources.

#### **4.9.3 Alternative 1 - New Storage Tank on West Side of Atlantic Street Extended**

Similar to the proposed action, there are no impacts to cultural resources.

#### **4.9.4 Cumulative Impacts**

Implementing the Proposed Action or Alternative 1 would result in cumulative impacts on cultural resources. Also, the no action alternative would not impact cultural resources.

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**5 LIST OF PREPARERS**

<b><u>Name/Title</u></b>	<b><u>Expertise/Experience</u></b>	<b><u>Involvement</u></b>
Steve Seip Environmental Quality Chief	19 years	Preparer

## LIST OF PREPARERS

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## **6 DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED**

### **6.1 Distribution of the Draft Environmental Assessment**

As part of CEQ regulations (§1503.1), public comments on the Draft EA are invited. This process helps decision makers and the public to understand and have input on the environmental effects of federal actions. This EA was maintained by CES/CEAN during the public review period. Potential reviewers were asked to contact CES/CEAN for an appointment to review the document. For security reasons, the document was not placed openly in the Dover Public Library.

The NEPA and CEQ regulations require that the environmental effects of Proposed Action and alternatives be considered in the decision-making process. Preparation of this EA must precede final decisions regarding the action, and the document must be available to inform decision-makers and the public of potential environmental consequences/impacts. Therefore, public notice of this EA has been provided in the Delaware State News (Appendix A). Additionally, two site visits were conducted to gather information from installation personnel and record field observations on existing conditions.

Dover AFB has coordinated with DNREC, Division of Water Allocation pertaining to the wellhead protection requirements associated with placing a fuel storage tank in proximity of potable drinking water well. DNREC regulations allow presence of fuel storage tank greater than 150 feet away from the potable water well as long as storage tank regulation requirements are followed.

Dover AFB has also coordinated with the Delaware State Historic Preservation Office pertaining to the potential eligibility for Facility 726.

### **6.2 Comments and Responses to Comments**

Comments received from federal agencies and/or members of the public during the public comment period were to be incorporated in the Final EA. A public notice was published in the Delaware State News on June 6 and 10 2012. The public notice allowed comments to be submitted through July 6, 2012. No public comments were received.

## DISTRIBUTION LIST AND AGENCIES AND INDIVIDUALS CONTACTED

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## 7 REFERENCES

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